

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1777	(715/513).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/11/09 13:06
S88	935	(715/501.1).CCLS.	US-PGPUB; USPAT	OR	OFF	2005/01/10 12:48
S99	237	(715/515).CCLS.	US-PGPUB; USPAT	OR	OFF	2005/01/10 13:02

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L5	319	describ\$4 with (service or operation or function) with xml	US-PGPUB; USPAT	OR	ON	2005/01/18 13:44
L6	17	5 and (map\$4 with (type or system) with schema)	US-PGPUB; USPAT	OR	ON	2005/01/18 13:49
L7	25	5 and (map\$4 with schema)	US-PGPUB; USPAT	OR	ON	2005/01/18 13:50
L8	8	7 not 6	US-PGPUB; USPAT	OR	ON	2005/01/18 14:49
S10	3923	xml with based	US-PGPUB; USPAT	OR	ON	2004/11/09 13:07
S11	2	S10 with idl	US-PGPUB; USPAT	OR	ON	2004/11/09 13:08
S12	44	xml with idl	US-PGPUB; USPAT	OR	ON	2004/11/09 13:08
S13	42	S12 not S11	US-PGPUB; USPAT	OR	ON	2004/11/09 13:08
S14	12	S13 and (describ\$4 with (service or interface))	US-PGPUB; USPAT	OR	ON	2004/11/09 13:48
S15	2	xml and idl and map\$4 and tdl	US-PGPUB; USPAT	OR	ON	2004/11/09 13:51
S16	215	map\$4 with system with schema	US-PGPUB; USPAT	OR	ON	2004/11/09 13:52
S17	30	map\$4 with system with schema with xml	US-PGPUB; USPAT	OR	ON	2004/11/09 14:13
S18	29	S17 not S15	US-PGPUB; USPAT	OR	ON	2004/11/09 13:53
S19	1	S18 and ((idl) or (interface adj description adj language))	US-PGPUB; USPAT	OR	ON	2004/11/09 13:52
S20	28	S18 not S19	US-PGPUB; USPAT	OR	ON	2004/11/09 13:53
S21	16	map\$4 with interface with schema with xml	US-PGPUB; USPAT	OR	ON	2004/11/09 14:17
S24	41	map\$4 with type with schema with xml	US-PGPUB; USPAT	OR	ON	2004/11/09 14:19
S26	425	describ\$4 with (service or interface or action or propert\$4 or event) with xml	US-PGPUB; USPAT	OR	ON	2005/01/07 13:45
S27	7	S26 and (map\$4 with system with schema)	US-PGPUB; USPAT	OR	ON	2005/01/10 09:29
S29	425	describ\$4 with (service or interface or action or propert\$4 or event) with xml	US-PGPUB; USPAT	OR	ON	2005/01/10 09:29
S30	7	S29 and (map\$4 with system with schema)	US-PGPUB; USPAT	OR	ON	2005/01/10 09:35
S34	11	S29 and (map\$4 with type with schema)	US-PGPUB; USPAT	OR	ON	2005/01/10 09:36

S36	36	S29 and (map\$4 with schema)	US-PGPUB; USPAT	OR	ON	2005/01/10 09:36
S42	12	type adj description adj language	US-PGPUB; USPAT	OR	ON	2005/01/10 11:04
S43	3	S42 with xml	US-PGPUB; USPAT	OR	ON	2005/01/10 11:04
S50	684	programming adj construct	US-PGPUB; USPAT	OR	ON	2005/01/10 11:53
S51	1	S50 with (map\$4 with schema)	US-PGPUB; USPAT	OR	ON	2005/01/10 11:53
S53	43	S50 and (map\$4 with schema)	US-PGPUB; USPAT	OR	ON	2005/01/10 11:53
S54	42	S53 not S51	US-PGPUB; USPAT	OR	ON	2005/01/10 11:53
S55	39	S54 and (pointer)	US-PGPUB; USPAT	OR	ON	2005/01/10 11:53
S56	30	S54 and (pointer with construct)	US-PGPUB; USPAT	OR	ON	2005/01/10 11:57
S64	3	(constant with value) with map\$4 with schema	US-PGPUB; USPAT	OR	ON	2005/01/10 12:00
S69	347	inherit\$6 with construct	US-PGPUB; USPAT	OR	ON	2005/01/10 12:07
S70	4	inherit\$6 with (programming adj construct)	US-PGPUB; USPAT	OR	ON	2005/01/10 12:09
S73	8	(wire adj format) with communicat\$5	US-PGPUB; USPAT	OR	ON	2005/01/10 12:12
S75	37310	wire with communicat\$5	US-PGPUB; USPAT	OR	ON	2005/01/10 12:12
S76	203	S75 and (map\$4 with wire)	US-PGPUB; USPAT	OR	ON	2005/01/10 12:12
S77	44	S75 and (map\$4 with wire with communicat\$5)	US-PGPUB; USPAT	OR	ON	2005/01/10 12:12
S78	2	S77 and xml	US-PGPUB; USPAT	OR	ON	2005/01/10 12:32
S82	44	map\$4 with wire with communicat\$6	US-PGPUB; USPAT	OR	ON	2005/01/10 12:34
S83	37	map\$4 with wire with communication	US-PGPUB; USPAT	OR	ON	2005/01/10 12:34
S84	2	S83 and xml	US-PGPUB; USPAT	OR	ON	2005/01/10 12:48
S85	35	S83 not S84	US-PGPUB; USPAT	OR	ON	2005/01/10 12:35
S95	1	map\$4 with (rich\$4 adj2 type) with system	US-PGPUB; USPAT	OR	ON	2005/01/10 12:56
S96	43	xml with extend\$5 with map\$4	US-PGPUB; USPAT	OR	ON	2005/01/10 12:57

S97	42	S96 not S95	US-PGPUB; USPAT	OR	ON	2005/01/10 12:57
S98	11	S97 and (construct\$4 with map\$4)	US-PGPUB; USPAT	OR	ON	2005/01/10 13:02

	Document ID	Issue Date	Title	Current OR
1	US 20040201600 A1	20041014	Methods and system for providing an XML-based interface description language	715/700
2	US 20040181537 A1	20040916	System with Methodology for Executing Relational Operations Over Relational Data and Data Retrieved from SOAP Operations	707/100
3	US 20040177360 A1	20040909	Mapping to and from native type formats	719/316
4	US 20040177160 A1	20040909	Mapping between native data type instances	709/246
5	US 20040054969 A1	20040318	System and method for generating web services definitions for MFS-based IMS applications	715/513
6	US 20040039732 A1	20040226	Process description language	707/3
7	US 20040006651 A1	20040108	Type extensions to web services description language	719/315
8	US 20040006550 A1	20040108	System and method for enterprise application interactions	707/1
9	US 20030208507 A1	20031106	Knowlede driven systems and modus operandi for customer, client and sales transctions	707/104.1

	Document ID	Issue Date	Title	Current OR
10	US 20030204645 A1	20031030	Method, system, and articles of manufacture for providing a servlet container based web service endpoint	719/328
11	US 20030191803 A1	20031009	Methods, systems and articles of manufacture for providing an extensible serialization framework for an XML based RPC computing environment	709/203
12	US 20030182282 A1	20030925	Similarity search engine for use with relational databases	707/5
13	US 20030163450 A1	20030828	Brokering semantics between web services	707/1
14	US 20030101190 A1	20030529	Schema-based notification service	707/100
15	US 20020156872 A1	20021024	Systems and methods for transmitting motion control data	709/219
16	US 20010037345 A1	20011101	Tagging XML query results over relational DBMSs	715/513
17	US 6829606 B2	20041207	Similarity search engine for use with relational databases	707/5

	Document ID	Issue Date	Title	Current OR
1	US 20040215797 A1	20041028	Creating and analyzing an identifier indicating whether data is in an expected form	709/230
2	US 20040162741 A1	20040819	Method and apparatus for product lifecycle management in a distributed environment enabled by dynamic business process composition and execution by rule inference	705/7
3	US 20040139095 A1	20040715	Method and system for integrating interaction protocols between two entities	707/100
4	US 20040054690 A1	20040318	Modeling and using computer resources over a heterogeneous distributed network using semantic ontologies	707/104.1
5	US 20030126136 A1	20030703	System and method for knowledge retrieval, management, delivery and presentation	707/10
6	US 20030101251 A1	20030529	Customizable element management system and method using element modeling and protocol adapters	709/223
7	US 20020143819 A1	20021003	Web service syndication system	715/513

	Document ID	Issue Date	Title	Current OR
8	US 6772216 B1	20040803	Interaction protocol for managing cross company processes among network- distributed applications	709/230

	Document ID	Issue Date	Title	Current OR
1	US 20040088117 A1	20040506	Laboratory database system and methods for combinatorial materials research	702/22
2	US 20040078788 A1	20040422	Metamodel for IDL to XML parsing and translation	717/140
3	US 20030220930 A1	20031127	System and method for translating to and from hierarchical information systems	707/100
4	US 20030114163 A1	20030619	Executable radio software system and method	455/450
5	US 20030093551 A1	20030515	Adaptive software interface	709/237
6	US 20020169741 A1	20021114	System And Method For Translating To And From Hierarchical Information Systems	707/1
7	US 20020128734 A1	20020912	Laboratory database system and methods for combinatorial materials research	700/73
8	US 20020099738 A1	20020725	Automated web access for back-end enterprise systems	715/513
9	US 6658429 B2	20031202	Laboratory database system and methods for combinatorial materials research	
10	US 6598219 B1	20030722	Method and mechanism for a task oriented XML data model	717/108

	Document ID	Issue Date	Title	Current OR
11	US 6523042 B2	20030218	System and method for translating to and from hierarchical information systems	707/102
12	US 6049819 A	20000411	Communications network incorporating agent oriented computing environment	709/202

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Relevance scale **1 [Web-based specification and integration of legacy services](#)**

Ying Zou, Kostas Kontogiannis

November 2000 **Proceedings of the 2000 conference of the Centre for Advanced Studies on Collaborative research**Full text available:  [pdf\(279.28 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

With the explosive growth of the Internet, businesses of all sizes aim on applying networkwide solutions to their IT infrastructures, migrating their legacy business processes into web-based environments, and establishing their own on-line services. To facilitate process and service integration, a complete and information rich service description language, is essential for server processes to be specified and for client processes to be able to locate services that are available in Web-enabled re ...

2 [Web-based tools, systems and environments: An approach to lightweight deployment of web services](#)

J. Gericic, J. Kleindienst, Y. Despotopoulos, J. Soldatos, G. Patikis, A. Anagnostou, L. Polymenakos

July 2002 **Proceedings of the 14th international conference on Software engineering and knowledge engineering**Full text available:  [pdf\(296.74 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Web Services is gradually becoming the most popular distributed computing paradigm for the Internet. Although several vendor and research efforts are in progress, fully-fledged deployment of Web Services in a wide scale has not been accomplished yet. The present contribution describes a framework for lightweight deployment of Web Services. This framework can be seen as a contribution to a smooth transition step towards a complete large-scale deployment. The paper starts with a description of dat ...

Keywords: CATCH-2004, EIRI, HTTP, SOAP, UDDI, WSDL, XML, web services

3 [Pushing reactive services to XML repositories using active rules](#)

Angela Bonifati, Stefano Ceri, Stefano Paraboschi

April 2001 **Proceedings of the tenth international conference on World Wide Web**Full text available:  [pdf\(203.85 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: SOAP, XML, active rules, document management, push technology, query languages for XML

4 [Business-to-business interactions: issues and enabling technologies](#)

B. Medjahed, B. Benatallah, A. Bouguettaya, A. H. H. Ngu, A. K. Elmagarmid

May 2003 **[The VLDB Journal — The International Journal on Very Large Data Bases](#)**,

Volume 12 Issue 1

Full text available:  [pdf\(558.34 KB\)](#) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Business-to-Business (B2B) technologies pre-date the Web. They have existed for at least as long as the Internet. B2B applications were among the first to take advantage of advances in computer networking. The Electronic Data Interchange (EDI) business standard is an illustration of such an early adoption of the advances in computer networking. The ubiquity and the affordability of the Web has made it possible for the masses of businesses to automate their B2B interactions. However, several issu ...

Keywords: B2B Interactions, Components, E-commerce, EDI, Web services, Workflows, XML

5 [Workshop on compositional software architectures: workshop report](#)

May 1998 **[ACM SIGSOFT Software Engineering Notes](#)**, Volume 23 Issue 3

Full text available:  [pdf\(2.91 MB\)](#) Additional Information: [full citation](#), [index terms](#)

6 [Embedded systems: applications, solutions and techniques \(EMBS\): Code generation techniques for developing light-weight XML Web services for embedded devices](#)

Robert van Engelen

March 2004 **[Proceedings of the 2004 ACM symposium on Applied computing](#)**

Full text available:  [pdf\(404.19 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)

This paper presents specialized code generation techniques and runtime optimizations for developing light-weight XML Web services for embedded devices. The optimizations are implemented in the gSOAP Web services development environment for C and C++. The system supports the industry-standard XML-based Web services protocols that are intended to deliver universal access to any networked application that supports XML. With the standardization of the Web services protocols and the availability of t ...

Keywords: Web Services, XML, embedded systems, networking

7 [Open hypermedia and the web: Offering open hypermedia services to the WWW: a step-by-step approach for developers](#)

Nikos Karousos, Ippokratis Pandis, Siegfried Reich, Manolis Tzgarakis

May 2003 **[Proceedings of the twelfth international conference on World Wide Web](#)**

Full text available:  [pdf\(86.12 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Hypermedia systems and more specifically open hypermedia systems (OHS) provide a rich set of implementations of different hypertext flavors such as navigational hypertext, spatial hypertext or taxonomic hypertext. Additionally, these systems offer component-based modular architectures and address interoperability between hypertext domains. Despite multiple efforts of integrating Web clients, a widespread adoption of OHS technology by Web developers has not taken place. In this paper it is argued ...

Keywords: babylon system, hypermedia services, open hypermedia systems, web services

8 Composable ad hoc location-based services for heterogeneous mobile clients

Todd D. Hodes, Randy H. Katz

October 1999 **Wireless Networks**, Volume 5 Issue 5

Full text available: [pdf\(403.18 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)



9 Workshop on testing, analysis and verification of web services (TAV-WEB) papers:

Model interchange and integration for web services

Robert J. Hall, Andrea Zisman

September 2004 **ACM SIGSOFT Software Engineering Notes**, Volume 29 Issue 5

Full text available: [pdf\(296.52 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)



Large distributed systems are normally developed by combining various nodes that are produced by different stakeholders, using different technologies, languages, and formalisms. An example of this situation is found when developing web services applications. However, the heterogeneity and diversity of existing languages to express behavioral specifications (models) of systems do not support integration, sharing and reuse of models between different validation tools. In this paper we present an X ...

Keywords: OpenModel, behavior models, integration, interchange, validation

10 Copyrights and access-rights: Experiences with the enforcement of access rights extracted from ODRL-based digital contracts

Susanne Guth, Gustaf Neumann, Mark Strembeck

October 2003 **Proceedings of the 2003 ACM workshop on Digital rights management**

Full text available: [pdf\(241.29 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)



In this paper, we present our experiences concerning the enforcement of access rights extracted from ODRL-based digital contracts. We introduce the generalized *Contract Schema* (CoSa) which is an approach to provide a generic representation of contract information on top of rights expression languages. We give an overview of the design and implementation of the xoRELIInterpreter software component. In particular, the xoRELIInterpreter interprets digital contracts that are based on rights exp ...

11 XML-enabled workflow management for e-services across heterogeneous platforms

German Shegalov, Michael Gillmann, Gerhard Weikum

August 2001 **The VLDB Journal — The International Journal on Very Large Data Bases**,

Volume 10 Issue 1

Full text available: [pdf\(662.54 KB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)



Advanced e-services require efficient, flexible, and easy-to-use workflow technology that integrates well with mainstream Internet technologies such as XML and Web servers. This paper discusses an XML-enabled architecture for distributed workflow management that is implemented in the latest version of our Mentor-lite prototype system. The key asset of this architecture is an XML mediator that handles the exchange of business and flow control data between workflow and business-object servers on t ...

Keywords: Business processes, Information system interoperability, Internet e-services, Workflow management, XML/XSL

12 A fine-grained access control system for XML documents

Ernesto Damiani, Sabrina De Capitani di Vimercati, Stefano Paraboschi, Pierangela Samarati
May 2002 **ACM Transactions on Information and System Security (TISSEC)**, Volume 5
Issue 2

Full text available:  [pdf\(330.60 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Web-based applications greatly increase information availability and ease of access, which is optimal for public information. The distribution and sharing of information via the Web that must be accessed in a selective way, such as electronic commerce transactions, require the definition and enforcement of security controls, ensuring that information will be accessible only to authorized entities. Different approaches have been proposed that address the problem of protecting information in a Web ...

Keywords: Access control, World Wide Web, XML documents, authorizations specification and enforcement

13 Semantics and discovery: Cooperative middleware specialization for service oriented architectures

Nirmal K. Mukhi, Ravi Konuru, Francisco Curbera
May 2004 **Proceedings of the 13th international World Wide Web conference on Alternate track papers & posters**

Full text available:  [pdf\(113.65 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Service-oriented architectures (SOA) will provide the basis of the next generation of distributed software systems, and have already gained enormous traction in the industry through an XML-based instantiation, Web services. A central aspect of SOAs is the looser coupling between applications (services) that is achieved when services publish their functional and non-functional behavioral characteristics in a standardized, machine readable format. In this paper we argue that in the basic SOA model ...

Keywords: metadata exchange, middleware reconfiguration, service-oriented architecture, web services

14 HydroJ: object-oriented pattern matching for evolvable distributed systems

Keunwoo Lee, Anthony LaMarca, Craig Chambers
October 2003 **ACM SIGPLAN Notices , Proceedings of the 18th annual ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications**, Volume 38 Issue 11

Full text available:  [pdf\(311.06 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

In an evolving software system, components must be able to change independently while remaining compatible with their peers. One obstacle to independent evolution is the *brittle parameter problem*: the ability of two components to communicate can depend on a number of *inessential* details of the types, structure, and/or contents of the values communicated. If these details change, then the components can no longer communicate, even if the *essential* parts of the message remain ...

Keywords: HydroJ, XML, distributed systems, dynamic dispatch, object-oriented programming, pattern matching, semi-structured data, software evolution, ubiquitous computing

15 Streams, structures, spaces, scenarios, societies (5s): A formal model for digital libraries

Marcos André Gonçalves, Edward A. Fox, Layne T. Watson, Neill A. Kipp

April 2004 **ACM Transactions on Information Systems (TOIS)**, Volume 22 Issue 2Full text available:  [pdf\(316.85 KB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Digital libraries (DLs) are complex information systems and therefore demand formal foundations lest development efforts diverge and interoperability suffers. In this article, we propose the fundamental abstractions of Streams, Structures, Spaces, Scenarios, and Societies (5S), which allow us to define digital libraries rigorously and usefully. Streams are sequences of arbitrary items used to describe both static and dynamic (e.g., video) content. Structures can be viewed as labeled directed gra ...

Keywords: applications., definitions, foundations, taxonomy

16 Service deployment for virtual enterprises

J. Yang, W. J. van den Heuvel, M. P. Papazoglou

January 2001 **Australian Computer Science Communications**, Volume 23 Issue 6Full text available:  [pdf\(892.19 KB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#)

The ubiquity of the WWW offers far reaching opportunities for emerging web-based applications based on service invocations. Although network-centric technologies will make the diverse services easily accessible via the Web, the development of E-commerce services (e-services) and networked services which share existing e-services is still an ad-hoc, very demanding, and time consuming task. In this paper we propose an integrated framework for e-services spanning legacy systems and modern enterpris ...

17 Reviewed articles: SIGAda 2001 workshop, "creating a symbiotic relationship between XML and Ada"

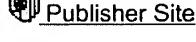
Robert C. Leif

September 2002 **ACM SIGAda Ada Letters**, Volume XXII Issue 3Full text available:  [pdf\(1.39 MB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The purpose of the workshop was to organize the Ada community to take advantage of the opportunity to create Ada applications that are operating systems independent because they are based on a web technology, XML, Extensible Markup Language. The commercial use of the Internet is the driving force behind XML. Four elements of XML, which together are sufficient to build a web application, and all employ the same syntax were described. These are XML; its schema; the Extensible Stylesheet Language, ...

18 TIGRA — an architectural style for enterprise application integration

Wolfgang Emmerich, Ernst Ellmer, Henry Fieglein

July 2001 **Proceedings of the 23rd International Conference on Software Engineering**Full text available:  [pdf\(137.99 KB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We report on experience that we made in the Trading room InteGRation Architecture project (TIGRA) at a large German bank. TIGRA developed a distributed system architecture for integrating different financial front-office trading systems with middle- and back-office applications. We generalize the experience by proposing an architectural style that can be re-used for similar enterprise application integration tasks. The TIGRA style is

based on a separation of data representation using domain-s ...

19 Towards a model-driven approach to build component-based adaptable middleware

Romain Rouvoy, Philippe Merle

October 2004 **Proceedings of the 3rd workshop on Adaptive and reflective middleware**

Full text available: [!\[\]\(a6eac08c103efb51b40f958fe35f07bb_img.jpg\) pdf\(310.93 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Adaptability is one of the goals that applications and middleware frameworks are trying to achieve. On one hand, the component paradigm is a way of reaching this goal by enforcing the reusability of functionalities involved in a component-based middleware framework. In particular, reflection could be combined with components to improve the adaptability of the structure of their assemblies. On the other hand, the model driven paradigm provides an efficient way to describe an application with e ...

Keywords: CBAM, Component-Based Adaptive Middleware, MDSE, components, models, transactions

20 Technical papers: software design: DADO: enhancing middleware to support

crosscutting features in distributed, heterogeneous systems

Eric Wohlstadter, Stoney Jackson, Premkumar Devanbu

May 2003 **Proceedings of the 25th International Conference on Software Engineering**

Full text available: [!\[\]\(e088a60aba18ad7619b846dde34cd067_img.jpg\) pdf\(1.56 MB\)](#) [!\[\]\(25aeca32273de50bd327805021385f8e_img.jpg\) Publisher Site](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Some "non-" or "extra-functional" features, such as reliability, security, and tracing, defy modularization mechanisms in programming languages. This makes such features hard to design, implement, and maintain. Implementing such features within a single platform, using a single language, is hard enough. With distributed, heterogeneous (DH) systems, these features induce complex implementations which cross-cut different languages, OSs, and hardware platforms, while still needing to share data and ...

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